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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,082	03/02/2004	Todd W. Steigerwald	5867-00300	2947

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EXAMINER
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NGUYEN, HUY D

ART UNIT	PAPER NUMBER
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2681

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/791,082	STEIGERWALD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Huy D. Nguyen	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,7 and 8 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 9-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hui et al. (US 2005/0041624) in view of Sawada et al. (U.S. Patent No. 6,624,536).

Regarding claim 1, Hui et al. teaches an apparatus for reducing electromagnetic interference between a pair of antennas (e.g., components 920 and 1010) attached to a wireless communications device, wherein the apparatus is positioned proximate to a second antenna of the pair of antennas for intercepting electromagnetic energy radiated from a first antenna of the pair of antennas during transmission of a signal (see figures 8 and 11, paragraphs [0069], [0072], [0080]).

Hui et al. does not clearly teach that the apparatus comprises a plurality of resonant circuit elements, each being configured to resonate at or near a carrier frequency of the transmitted signal for redirecting at least a portion of the electromagnetic energy away from the second antenna, thereby reducing the electromagnetic interference at the second antenna. However, the preceding limitation is taught in Sawada et al. (see column 5, lines 19-41). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Sawada et al. to teaching of Hui et al. to improve the capability of said apparatus since it can absorb the electromagnetic waves located within an arbitrary wavelength

Art Unit: 2681

range by setting the antenna portion to such an arbitrary length defined by considering the wavelength of the electromagnetic wave to be absorbed.

Regarding claim 2, the combination of Hui et al. and Sawada et al. the apparatus of claim 1, wherein combined operation of the plurality of resonant circuit elements enable the apparatus to operate over a relatively wide range of band-gap frequencies (see Sawada et al.: column 3, lines 12-19).

Regarding claims 7-8, the combination of Hui et al. and Sawada et al. the apparatus of claim 1, wherein the apparatus is configured to resonate by setting various dimensions of the apparatus to some fraction of a wavelength of the transmitted signal (see Sawada et al.: column 3, lines 12-19).

***Allowable Subject Matter***

3. Claims 3-6, 9-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 3, the cited prior arts, either alone or in combination, fail to teach or suggest the apparatus of claim 2, wherein the relatively wide range of band-gap frequencies comprises the carrier frequency of the transmitted signal, and extends approximately two to four octaves above the carrier frequency.

Regarding claim 9, the cited prior arts, either alone or in combination, fail to teach or suggest the apparatus of claim 8, wherein the plurality of resonant circuit elements form a periodic surface that is substantially less than one-tenth of the transmission signal wavelength.

***Contact Information***

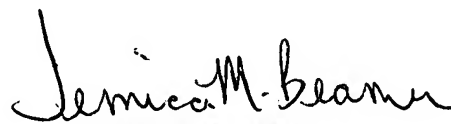
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy D. Nguyen whose telephone number is 571-272-7845. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Huy Nguyen



TEMICA BEAMER  
PRIMARY EXAMINER  
11/9/04